SEPTIC DESIGN (NOT DESIGNED FOR GARBAGE GRINDER)

1. DESIGN DAILY FLOW: 8 BR. x 110 GPD = 880 GPD
   10 BR. x 110 GPD = 1,100

2. SEPTIC TANK:

1,540 GPD x 2 = 3,080 GAL. 1ST COMPARTMENT
+1,320 GPD x 1 = 1,540 GAL. 2ND COMPARTMENT
4,580 GAL. USE: 5,000 GAL (MIN)

1,100 GPD x 2 = 2,200 GAL. 1ST COMPARTMENT
+1,100 GPD x 1 = 1,100 GAL. 2ND COMPARTMENT
3,300 GAL. USE: 4,000 GAL (MIN)

880 GPD x 2 = 1,760 GAL. 1ST COMPARTMENT
+880 GPD X 1 = 880 GAL. 2ND COMPARTMENT
2,640 GAL. USE: 3,000 GAL. (MIN)

660 GPD x 2 = 1,320 GAL. 1ST COMPARTMENT
+660 GPD X 1 = 660 GAL. 2ND COMPARTMENT
1,980 GAL. USE: 2,000 GAL. (MIN)

90 GPD x 2 = 180 GAL. 1ST COMPARTMENT
+90 GPD X 1 = 90 GAL. 2ND COMPARTMENT
270 GAL. USE: 1,500 GAL. (MIN)

3. LEACHING CHAMBERS: P.R. =2 MIN/IN CLASS I **(ASSUMED)**

PROPOSED ADS 16" HIGH CAPACITY BIODIFFUSER LEACHING CHAMBERS
(PER MODIFIED CERTIFICATION FOR GENERAL USE DESIGN STANDARD ITEM 6.)
EFFECTIVE LEACHING AREA = 7.88 SF/LF

1,540 GPD (D.D.F.) LEACHING AREA

PROPOSED AREA: 4 ROWS x 68.75 LF x 7.88 SF/LF = 2,167 S.F. CAPACITY: 2,167 S.F. x 0.74 GPD/S.F. = 1,603 > 1,540 GPD(D.D.F.)

USE: 3–68.75' LONG x 34" WIDE x 16" DEEP LEACHING CHAMBER SYSTEM IN TRENCH CONFIGURATION WITH 11 – 6.25' LONG ADS 16" HIGH CAPACITY BIODIFFUSER LEACHING CHAMBERS PER ROW.

1,100 GPD (D.D.F.) LEACHING AREA

PROPOSED AREA: 3 ROWS x 68.75 LF x 7.88 SF/LF = 1625.25 S.F. CAPACITY: 1,625.25 S.F. x 0.74 GPD/S.F. = 1,202 > 1100 GPD(D.D.F.)

USE: 3–68.75' LONG x 34" WIDE x 16" DEEP LEACHING CHAMBER SYSTEM IN TRENCH CONFIGURATION WITH 11 – 6.25' LONG ADS 16" HIGH CAPACITY BIODIFFUSER LEACHING CHAMBERS PER ROW.

OR

PROPOSED AREA: 4 ROWS x 50 LF x 7.88 SF/LF = 1,576 S.F. CAPACITY: 1,576 S.F. x 0.74 GPD/S.F. = 1,166 > 1,100 GPD(D.D.F.)

880 GPD (D.D.F.) LEACHING AREA

PROPOSED AREA: 3 ROWS x 56.25 LF x 7.88 SF/LF = 1,330 S.F. CAPACITY: 1330 S.F. x 0.74 GPD/S.F. = 984 > 880 GPD(D.D.F.)

USE: 3–56.25' LONG x 34" WIDE x 16" DEEP LEACHING CHAMBER SYSTEM IN TRENCH CONFIGURATION WITH 9 – 6.25' LONG ADS 16" HIGH CAPACITY BIODIFFUSER LEACHING CHAMBERS PER ROW.

660 GPD (D.D.F.) LEACHING AREA

PROPOSED AREA: 3 ROWS x 43.75 LF x 7.88 SF/LF = 1,034.25 S.F. CAPACITY: 1034.25 S.F. x 0.74 GPD/S.F. = 765 > 660 GPD(D.D.F.)

USE: 3–43.75' LONG x 34" WIDE x 16" DEEP LEACHING CHAMBER SYSTEM IN TRENCH CONFIGURATION WITH 7 – 6.25' LONG ADS 16" HIGH CAPACITY BIODIFFUSER LEACHING CHAMBERS PER ROW.

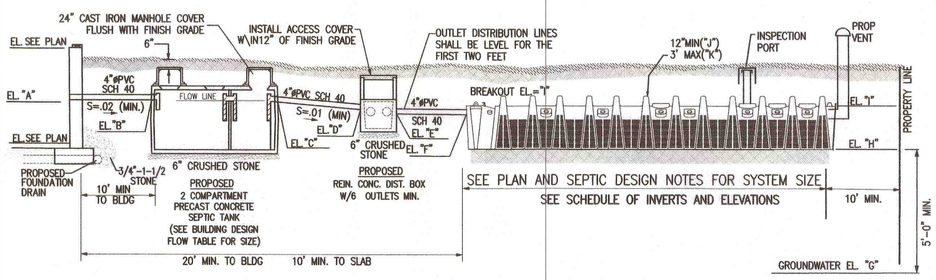
90 GPD (D.D.F.) LEACHING AREA

PROPOSED AREA: 2 ROWS x 43.75 LF x 7.88 SF/LF =591 S.F. CAPACITY: 492.5 S.F. x 0.74 GPD/S.F. = 364 > 90 (MIN) GPD(D.D.F.)

USE: 2–31.25' LONG x 34" WIDE x 16" DEEP LEACHING CHAMBER SYSTEM IN TRENCH CONFIGURATION WITH 5 – 6.25' LONG ADS 16" HIGH CAPACITY BIODIFFUSER LEACHING CHAMBERS PER ROW.

BUILDING DESIGN FLOW TABLE

BUILDING #	UNITS/BUILDING	BEDROOMS	BEDROOMS/BLD	DESIGN FLOW	SYSTEM DESIGN FLOW (GPD)
OFFICE	0	=1,800 x 50 GPD/1000 S.F.		90	90
1	1	3BR	3	330	
2	1	2BR	2	220	770
3	2	1BR, 1BR	2	220	
4	2	2BR, 2BR	4	440	
5	2	1BR, 1BR	2	220	660
6	2	1BR, 1BR	2	220	
7	2	1BR, 1BR	2	220	
8	2	2BR, 2BR	4	440	
9	2	2BR, 2BR	4	440	1540
10	2	1BR, 1BR	2	220	
11	2	3BR, 2BR	5	550	
12	2	1BR, 1BR	2	220	770
13	2	1BR, 1BR	2	220	
14	2	2BR, 2BR	4	440	
15	2	1BR, 1BR	2	220	880
16	2	1BR, 1BR	2	220	
17	2	2BR, 2BR	4	440	
18	2	1BR, 1BR	2	220	880
19	2	1BR, 1BR	2	220	
20	2	3BR, 3BR	6	660	
21	2	1BR, 1BR	2	220	1100
	40		60	6690	6690
		4 – 3BR			
		12 – 2BR			
		24 – 1BR			



SUBSURFACE SEWAGE DISPOSAL SYSTEM

SEPTIC NOTES

1. TOPOGRAPHIC SURVEY BY GRADY CONSULTING APRIL 2007.
2. SOILS TESTING SHALL BE PERFORMED TO CONFIRM PERCOLATION RATE BELOW EACH SYSTEM IN ACCORDANCE WITH TITLE 5.
3. CALL DIG SAFE 1–888–344–7233 AT LEAST 4 DAYS PRIOR TO COMMENCEMENT OF CONSTRUCTION.
4. NOTIFY TOWN AND GRADY CONSULTING PRIOR TO BACKFILLING OF SYSTEM.
5. NO KNOWN IRRIGATION OR POTABLE WELLS EXIST WITHIN 200' OF THE PROPOSED SYSTEM 7. THE SITE IS LOCATED IN A DEP AQUIFER PROTECTION ZONE II.
6. ALL SYSTEM COMPONENTS SHALL BE MARKED WITH MAGNETIC MARKING TAPE OR A COMPARABLE MEANS IN ORDER TO LOCATE THEM ONCE BURIED (310 CMR 15.221(12))
7. NO STREAMS, SURFACE & SUBSURFACE DRAINS AND WETLANDS EXIST WITHIN 100 FT OF THE PROPOSED SYSTEMS.
8. THE SITE IS NOT LOCATED IN A FLOOD PLAIN DISTRICT.
9. NO KNOWN EASEMENTS ARE IN THE AREA OF THE PROPOSED SYSTEMS.+
10. WHERE SEWER LINES CROSS WATER LINES BOTH PIPES SHALL BE CONSTRUCTED OF CLASS 150 PRESSURE PIPE AND SHALL BE PRESSURE TESTED TO ASSURE WATER TIGHTNESS.

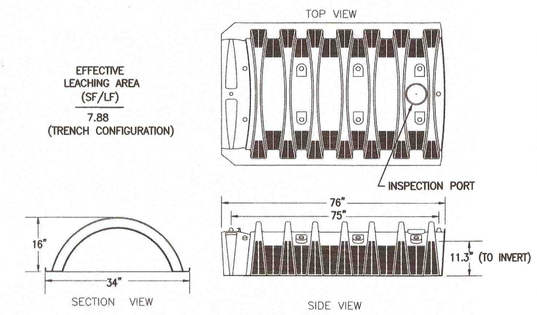
REQUIRED INSPECTIONS

1. AFTER EXCAVATION OF LEACHING AREA PRIOR TO INSTALLING SAND.
2. AFTER SYSTEM CONSTRUCTION PRIOR TO BACKFILLING.
3. AFTER FINAL GRADING IS COMPLETED.

(ADDITIONAL INSPECTIONS MAY BE REQUIRED BY THE BOARD OF HEALTH)

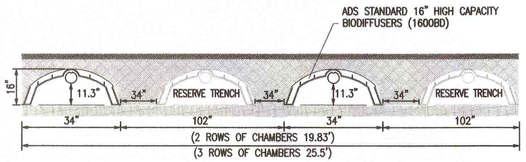
SCHEDULE OF INVERTS / ELEVATIONS

BUILDING #'S	"A"	"B"	"C"	"D"	"E"	"F	"G"	"H"	"I"	"J"	"K"
OFFICE/STORAGE	64.35	62.75	62.50	62.40	62.20	62.10	X	61.17	62.50	63.50	65.50
1–3	62.50	61.90	61.65	61.55	61.35	61.20	X	60.26	61.59	62.50	64.50
4–5	64.00	63.40	63.15	62.75	62.55	62.42	X	61.48	62.81	63.81	65.81
6–7	62.75	59.75	—	—	—	—	—	—	—	—	—
8–10	61.25	59.75	59.50	59.30	59.13	59.00	X	58.07	59.40	60.40	62.40
11–12	61.35	60.65	60.40	60.10	59.90	59.81	X	58.87	60.20	61.20	63.20
13–15	62.60	61.35	61.10	60.40	60.20	60.01	X	59.07	60.40	61.40	63.40
16–18	62.00	60.85	60.60	59.90	59.70	59.51	X	58.57	59.90	60.90	62.90
19–21	61.50	60.30	60.05	59.25	59.05	58.86	X	57.92	59.25	60.25	62.25



16" HIGH CAPACITY BIODIFFUSER (1600BD)

NOT TO SCALE



CHAMBER TRENCH X–SECTION

NOT TO SCALE

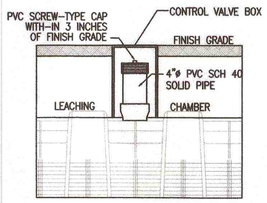
ADS CHAMBER SYSTEM NOTES

THIS SYSTEM HAS BEEN DESIGNED IN ACCORDANCE WITH THE COMMONWEALTH OF MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION MODIFIED CERTIFICATION FOR GENERAL USE, PURSUANT TO TITLE 5, 310 CMR 15.000, ISSUED MAY 22, 2014 AND STANDARD CONDITIONS FOR ALTERNATIVE SOIL ABSORPTION SYSTEMS WITH GENERAL USE CERTIFICATION AND/OR APPROVED FOR REMEDIAL USE REVISED MAY 22, 2013. NO STONE AROUND OR BELOW CHAMBERS IS REQUIRED.

BACKFILL BIODIFFUSER CHAMBERS WITH ON SITE SAND SOIL OR CLEAN COARSE SAND IN ACCORDANCE WITH 310 CMR 15.255(3).

CONTRACTOR MUST BE TRAINED IN INSTALLATION BY ADVANCED DRAINAGE SYSTEMS, INC.

CONTACT STEVE MINOR (207)240–5967 OR steve.minor@ads–pipe.com



INSPECTION PORT DETAIL

NOT TO SCALE

FULL SIZE CONVENTIONAL SEPTIC DESIGN–PER STANDARD CONDITIONS FOR ALTERNATIVE SOIL ABSORPTION SYSTEMS

1100 GPD (D.D.F.) LEACHING AREA
LEACHING TRENCHES: P.R. = 2 MIN/IN CLASS I **(ASSUMED)**
USE: 4–63' LONG x 2' WIDE x 2' DEEP LEACHING TRENCHES
PROPOSED AREA: 4(6 x 63) = 1512 S.F.
CAPACITY: 1512 S.F. x 0.74 GPD/S.F. = 1119 > 1100 GPD(D.D.F.)

OR

1100 GPD (D.D.F.) LEACHING AREA
LEACHING TRENCHES: P.R. = 2 MIN/IN CLASS I **(ASSUMED)**
USE: 3–84' LONG x 2' WIDE x 2' DEEP LEACHING TRENCHES
PROPOSED AREA: 3(6 x 84) = 1512 S.F.
CAPACITY: 1512 S.F. x 0.74 GPD/S.F. = 1119 > 1100 GPD(D.D.F.)

COMMONWEALTH OF MASSACHUSETTS
DARREN M. GRADY
CIVIL
No. 40715
REGISTERED PROFESSIONAL ENGINEER

SITE PLAN

FERRY STREET

MARSHFIELD, MASSACHUSETTS

RECORD OWNERS
PETER ARMSTRONG
44 ALLERTON ROAD
MARSHFIELD, MA 02050
ASSESSORS MAP G12–29–02 & H12–01–09A
BK 31665 PG 346

PROGRESS PRINTS OCTOBER 1, 2015
SCALE: 1"=40'
JOB NO. 12–243

GRADY CONSULTING, L.L.C.
71 Evergreen Street Kingston, MA 02364
Phone (781) 585–2300 Fax (781) 585–2378

(DETAIL SHEET)